

In the Specification:

[0102] The external part of the retinal color prosthesis is carried by the patient. Typically, the external part including imager, video data processing unit, eye-tracker, and transmitter/receiver 103 are worn as an eyeglass-like unit. Typical of this embodiment, a front view of one aspect of the structural external part (1) of the color retinal prosthesis is shown in FIG. 1c and a side view is shown in FIG. 1d, (1). In addition, there are two other units, which may be plugged into the external unit; when this is done they act as part of the external unit. The physician's control unit is not normally plugged into the external part worn by the patient, except when the physician is conducting an examination and adjustment of the retinal color prosthetic. The patient's controller may or may not be normally plugged in. When the patient's controller is plugged in, it can also receive signals from a remote physician's controller communicating through a remote telemetry means 119, which then acts in the same way as the plug-in physician's controller.

[0173] In one embodiment (FIG. 16a) the internal-to-the-eye-implanted part consists of two subsystems, the electrode component 1602, carrying, electrodes 1603, subretinally positioned and the electronic component 1601 epiretinally positioned. The electronics component 1601, with its relatively high heat dissipation, is positioned at a distance via cables 1604, within the eye, from the electrode component placed near the retina that is sensitive to heat.

[0174] An alternative embodiment shown in FIG. 16b is where one of the combined electronic and electrode substrate units 1611 is positioned subretinally and the other 1610 is located epiretinally and both are held together across the retina 1605 so as to efficiently stimulate bipolar and associated cells in the retina.